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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/744,250 | 03/07/2001 | Hyoung Gon Kim | 7114 | 4702 |

7590 06/03/2005
Shlesinger Arkwright & Garvey LLP
3000 South Eads Street
Arlington, VA 22202

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| EXAMINER |
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LU, TOM Y

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| ART UNIT | PAPER NUMBER |
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2621

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/744,250

Applicant(s)

KIM ET AL.

Examiner

Tom Y. Lu

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-6 and 13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13 is/are allowed.
- 6) ☒ Claim(s) 1 and 4-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment and written response filed on 12/02/2004 has been entered.
2. Claims 2-3 and 7-12 have been cancelled.
3. Claim 1 has been amended.
4. Claims 1, 4-6 and 13 are pending.

Response to Arguments

5. Applicant's arguments, see Remarks page 6, filed 12/02/2004, with respect to the rejection(s) of claim(s) 1 under 35 U.S.C. 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Hanco et al (U.S. Patent No. 6,493,041 B1) and Qian (U.S. Patent No. 6,148,092).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanco et al (U.S. Patent No. 6,493,041 B1) in view of Qian (U.S. Patent No. 6,148,092).
 - a. Referring to Claim 1, Hanco discloses a frame delay for delaying the first frame image by one frame said the delayed first frame image being a second frame image (Hanco: column 8, lines 32-35, first frame image is delayed by one frame

to be held in a memory for later comparison with the incoming frame to detect difference between corresponding pixels. Note the pixel differencer 150 must incorporate a frame delay, and the current reference image frame 144 is the claimed first frame image being delayed); and a motion detector coupled to the frame delay for detecting the motion of the moving object and further intensifying the intensity levels of said first frame image based on the detected motion (motion detection 180, column 8, line 48 intensifies the level of first frame image by counting the number of pixel differences, column 8, line 50-55). Hanko does not explicitly teach a color normalizer and a color transformer. Qian at column 3, lines 63-67, teaches a normalizing process to normalize the color frame image to produce a normalized color frame image according to the relationships of $r=R/(R+G+B)$; $g=G/(R+G+B)$; $b=B/(R+G+B)$; and a transformer 12, that is coupled to the normalizer to emphasize the intensities of the moving objects, column 4, lines 13-14. At the time the invention was made, a person of ordinary skill in the art would have been motivated to adapt Qian's normalizer and transformer in Hanko's system because Hanko at column 12, lines 31-32 admits some helpful steps might be omitted, the helpful steps such as color normalization and transformation as taught by Qian since Qian teaches by applying the color normalizer and the transformer, it makes the objects in the frame images more distinguishable from each other, column 4, line 15-16, which is helpful in tracking object movements, and Hanko also encourages performing his motion detection system in a color frame environment, column 8, line 5-6.

- b. Referring to Claim 4, Hanko discloses wherein said motion detector comprises means for detecting the motion of each pixel by counting pixels adjacent said each pixel whose intensity level difference between said first and second color transformed frame images are larger than a threshold value (column 7, line 55); and said intensity level of each pixel is further intensified by weighting said intensity level in accordance with said detected motion of said each pixel (column 7, line 57).
- c. Referring to Claim 5, Hanko discloses wherein said weighting is performed by fuzzy-AND operating said intensity level with said detected motion for said each pixel (Hanko at column 7, lines 56-57, teaches the weighting defines the degree of change required before a given pixel is deemed to have changed, which must be done through use of fuzzy-AND operation).
- d. Referring to Claim 6, Hanko teaches the threshold weights are defined by the degree of changed before a given pixel is deemed to have changed. A given pixel is the claimed Z, and the degree of change is the claimed Q.

Allowable Subject Matter

- 7. Claim 13 is allowed as indicated in the previous office action dated 07/02/2004.

Conclusion

- 8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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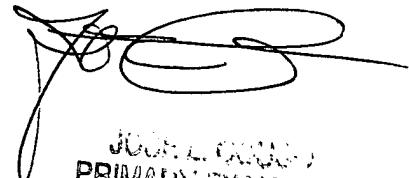
the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom Y. Lu whose telephone number is (571) 272-7393. The examiner can normally be reached on 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Y. Lu



JUL 1 2009
PRIMARY EXAMINER